



2003 Annual Report

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Prepared By

Missouri Department of Natural Resources  
Air and Land Protection Division  
Air Pollution Control Program

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# Volume I

## **Volume I**

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## **I. Executive Summary**

The Gateway Clean Air Program is a vehicle emissions inspection and maintenance (I/M) program that affects vehicles registered in the city of St. Louis and St. Louis, St. Charles, Jefferson and Franklin Counties. The Missouri Department of Natural Resources oversees the program, which is operated by a contractor, Environmental Systems Products (ESP) Missouri. The purpose of this program is to reduce the amount of hydrocarbon emissions from light-duty gasoline-powered passenger vehicles and trucks so that the St. Louis ozone maintenance area meets the National Ambient Air Quality Standard for ground-level ozone, or smog.

This report covers the fourth year of operation of the Gateway Clean Air Program. The report makes the following findings:

- ◆ The Gateway Clean Air Program is successfully reducing vehicle emissions and is one of the primary control strategies that contributed to the St. Louis area's redesignation to attainment and maintenance of the one-hour ozone standard. Since the Gateway Clean Air Program began emissions inspecting vehicles in April 2000, the St. Louis area has had four successive calendar years (2000-2003) of monitored air quality without a violation of the one-hour ozone standard.
- ◆ Continuous improvements have increased both the air quality benefits and the motorist convenience of the Gateway Clean Air Program. The most significant improvements that occurred in 2003 resulted from the 2002 amendment of the enhanced I/M rule. On-board diagnostic testing has reduced average wait times at enhanced emissions inspection stations by 30 percent and increased the air quality benefits of the enhanced I/M program. By requiring that waived vehicles demonstrate a reduction in the failing emissions, the revised compliance waiver requirements have decreased the number of vehicles receiving a waiver by 80 percent and increased the air quality benefits of the enhanced I/M program.
- ◆ The Gateway Clean Air Program has improved its public information materials to provide motorists with additional information to make the program as convenient as possible. The Weekly Update report is providing additional information to motorists about which stations will inspect their vehicle most efficiently. The Repair Facility Performance Report is providing motorists with a score for each Recognized Repair Facility that indicates their proficiency in diagnosing and repairing a vehicle's emissions-related failure.
- ◆ The Gateway Clean Air Program is funded solely by the inspection fees collected. In 2003, the Gateway Clean Air Program collected \$17.3 million in emissions inspection fees from 744,167 vehicles. This revenue was used to fund the cost of ESP Missouri's staff, facilities, and emissions test equipment, the department's oversight staff, facilities, and auditing equipment, and the Gateway Clean Air Program public information efforts.
- ◆ In 2003, 53,467 unique vehicles were repaired. These repairs cost the owners of these vehicles an estimated \$22.6 million. The reduction in emissions from these repaired vehicles is the reason that the Gateway Clean Air Program is having the positive impact on the St. Louis area's air quality that it was designed to achieve.

## **II. Introduction**

Ground-level ozone, or smog, is formed when sunlight and heat cause pollutants called hydrocarbons and nitrogen oxides to react. Periodic concentrations of ground-level ozone can cause shortness of breath, coughing, wheezing, headaches, nausea, and eye and throat irritation in healthy individuals. These health effects are more severe for children, the elderly and those with pre-existing respiratory problems, such as asthma.

The federal Clean Air Act Amendments of 1990 established national health-based standards for ground-level ozone as well as several other air pollutants. Areas that exceed the health-based standards are known as nonattainment areas. Depending on the amount of ozone that exceeds the standard, areas are classified as marginal, moderate, serious, severe or extreme. In the early 1990s, the St. Louis area was designated by the United States Environmental Protection Agency (EPA) as a moderate one-hour ozone nonattainment area. The Gateway Clean Air Program was designed to help the St. Louis area achieve the air quality improvements necessary to attain the health-based one-hour standard for ground-level ozone.

A variety of sources including gasoline-powered vehicles emit hydrocarbons into the air. Prior to the implementation of the Gateway Clean Air Program in 2000, air quality in St. Louis had improved significantly. Two gasoline pollution control strategies, Stage II Gasoline Vapor Recovery, implemented in 1989, and reformulated gasoline, implemented in 1999, as well as numerous industrial controls, affecting such industries as dry cleaners, bakeries, and printing and painting operations, had already been implemented. However, the St. Louis area still had measured ozone concentrations that negatively affected the health and quality of life of area residents.

In 2002, due to the successful implementation of the Gateway Clean Air Program and the other gasoline and industrial controls mentioned above, the St. Louis area had its third successive calendar year of monitored air quality without a violation of the one-hour ozone standard. As a result, the Department of Natural Resources submitted a request to have the EPA recognize that the St. Louis area had attained the one-hour ozone standard. This request was accompanied by a maintenance plan, which detailed how the area will maintain this improvement in air quality for the next ten years. The major components of the maintenance plan include a commitment to continue the Stage II Gasoline Vapor Recovery, reformulated gasoline, and I/M programs as well as the industrial controls currently in place in the St. Louis area. On May 12, 2003, the St. Louis area was officially redesignated by the EPA as a maintenance area for the one-hour ozone standard and will be referred to as such for the purposes of this report.

### III. 2003 Details of the Gateway Clean Air Program

The Department of Natural Resources and ESP Missouri are continuously improving the Gateway Clean Air Program so the program can achieve maximum air quality gains and maximum customer convenience. What follows are the highlights of the efforts undertaken in calendar year 2003 to achieve these goals.

#### *Enhanced Inspection and Maintenance Rule Amendment*

On August 29, 2002, the Missouri Air Conservation Commission adopted an amendment to the enhanced emissions I/M rule, 10 CSR 10-5.380 Motor Vehicle Emissions Inspection. The rule amendment became effective on December 30, 2002. This rule amendment was designed to increase both the motorist convenience and the air quality benefits of the Gateway Clean Air Program. The two primary changes contained in this rule amendment are the redesign of on-board diagnostics testing requirements for 1996 and newer model year vehicles and the tightening of the compliance waiver requirements for all model year vehicles subject to the enhanced emissions I/M program. More information about these and other revised rule requirements are described below.

#### *Revised On-Board Diagnostics Testing Requirements*

On-board diagnostics (OBD) is an emissions early-warning system required by the federal EPA and installed by vehicle manufacturers on all 1996 and newer model year vehicles. The OBD system continuously monitors all of a vehicle's emissions control components. If any of these components behaves in such a way as to elevate tailpipe or evaporative emissions more than 1.5 times the new vehicle certification limits, then the OBD system illuminates an amber-colored dashboard Malfunction Indicator Lamp (MIL), also called a "Service Engine Soon" or "Check Engine" light, to alert the owner that emissions-related repairs are necessary. If the motorist responds to the MIL as soon as it is illuminated by having their vehicle serviced by a properly-trained repair technician, then the motorist will likely benefit from reduced vehicle maintenance costs.



The OBD system is designed to allow quick evaluation of the vehicle for information about the performance of the vehicle's emissions control system and sensors. OBD allows an inspector to download specific information from the vehicle's OBD computer while the vehicle idles. If the dashboard MIL is on or the vehicle's OBD computer indicates that a component or sensor is malfunctioning, this information can be used in place of a tailpipe test result to require the vehicle to be repaired.

Because OBD testing is the state-of-the-art testing paradigm for 1996 and newer vehicles, OBD testing has always been a part of the Gateway Clean Air Program design. Originally, pass/fail OBD testing was scheduled to begin on January 1, 2001, according to EPA regulations promulgated in April 1998. As a result, the Gateway Clean Air Program has been collecting and printing advisory-only OBD information on the Vehicle Test Report and Compliance Certificate since the program began. EPA promulgated a rulemaking on April 5, 2001, that postponed

mandatory OBD pass/fail testing until 2002 or as late as 2005 if states could show that additional time was necessary. Missouri's 2002 rule amendment included the following changes to the OBD testing requirements of the enhanced emissions I/M program:

- During the two-year phase-in of OBD testing between January 1, 2003, and December 31, 2004, 1996 and newer vehicles that pass the OBD test will skip the IM240 tailpipe test.
- During the two-year phase-in of OBD testing between January 1, 2003, and December 31, 2004, vehicles that fail the OBD test will receive an IM240 tailpipe test. Vehicles that pass the IM240 tailpipe test will pass. Vehicles that fail IM240 tailpipe test will fail and need to be repaired and reinspected.
- Beginning January 1, 2005, the OBD test will become pass/fail, and 1996 and newer model year vehicles will no longer be tested with the IM240 test. (Prior to the finalization of this report, the Air Pollution Control Program became aware that this implementation would be delayed. The new target date for OBD pass/fail testing is April 4, 2005.)

### *Benefits of Revised On-Board Diagnostics Testing Requirements*

With the start of the OBD phase-in period on January 1, 2003, the motorist convenience and air quality benefits of the Gateway Clean Air Program have increased. A summary of the benefits of OBD testing are listed below:

- OBD tests take approximately 30 seconds per vehicle, compared to IM240 tailpipe tests that take approximately 240 seconds per vehicle. Because 1996 and newer vehicles are tested more quickly, station wait times have been reduced for all motorists. In 2002, prior to the beginning of OBD testing, the average wait time at enhanced emissions inspection stations was 11.75 minutes. In 2003, with the phase-in of OBD testing, the average wait time at enhanced emissions inspection stations was 8.25 minutes, a 30 percent reduction. By implementing OBD testing and reducing station wait times at all 10 enhanced I/M stations, the Gateway Clean Air Program is substantially increasing motorist convenience.
- OBD tests monitor the performance of vehicle emissions control components under all operating conditions, compared to IM240 tests that measure tailpipe emissions under limited operating conditions. Because 1996 and newer model year vehicles are being inspected with an OBD test that is specifically designed for their level of emissions control technology, the enhanced I/M program is providing motorists with vehicle test results that are the best measure of their vehicle's emissions control system. By implementing OBD testing, the Gateway Clean Air Program is increasing the value of the enhanced I/M program to motorists without raising the inspection fee.
- OBD tests identify emissions control component or system problems, often before tailpipe emissions increase, compared to IM240 tests that can only measure elevated tailpipe emissions after a component has deteriorated or failed. The repair of specific component or system problems identified by the OBD test prior to a measurable increase in tailpipe emissions protects the vehicle's expensive catalytic converter from unnecessary deterioration. This emissions early warning system allows motorists to maintain the value of their vehicle's catalytic converter and avoid the need to replace the catalytic converter after the converter's warranty period has expired. By implementing OBD testing and reducing vehicle emissions control system maintenance costs, the Gateway Clean Air Program is increasing the motorist convenience and air quality benefits of the enhanced I/M program.

- Because repair technicians can duplicate the OBD test in their facility with equipment that they already own and because OBD-equipped vehicles store specific diagnostic information about why the vehicle failed the OBD test, properly trained repair technicians are able to more accurately diagnose and repair 1996 and newer model year vehicles. They are also able to increase their effectiveness by validating the success of the OBD repair in their facility prior to returning the vehicle to the owner. This repair validation reduces the number of trial and error repairs experienced by the public. By implementing OBD testing and reducing both the costs of repair and the time spent on vehicle repairs, the Gateway Clean Air Program is increasing the motorist convenience of the enhanced I/M program.
- OBD tests encourage motorists to respond to their vehicle's illuminated MIL prior to an emissions inspection, compared to IM240 tests that let motorists wait to fix an emissions-related problem until after the emissions inspection. Because more OBD-equipped vehicles will be repaired prior to their next emissions inspection, vehicle pollution is being prevented instead of reduced. By implementing OBD testing and encouraging motorists to keep their vehicles running cleanly for the life of the vehicle, the Gateway Clean Air Program is increasing the positive impact of the enhanced I/M program on St. Louis area air quality.

### *Revised Compliance Waiver Requirements*

The cost of repairing a vehicle that fails an emissions inspection depends on many factors, including how old the vehicle is, how many miles it has been driven, how many unique parts/systems are in need of repair, how well the vehicle has been maintained, and who is servicing the vehicle. Because of these numerous factors, the Gateway Clean Air Program does not regulate the costs to fully repair a vehicle that fails an emissions inspection.

The Gateway Clean Air Program is also designed to mitigate the financial impact of the program. State statute 643.335 RSMo contains a compliance waiver provision so that the Gateway Clean Air Program balances the need for improved air quality with the financial impact to individuals with failing vehicles. Through the compliance waiver mechanism, the cost of fully repairing a failed vehicle can be spread out over time. By paying for partial repairs for a failed vehicle, motorists can obtain a compliance waiver and legally register a vehicle that is emitting excess pollution. The compliance waiver gives motorists two more years to obtain the remaining repairs to their vehicle's emissions control system so that the vehicle no longer emits excess pollution.

The 2002 rule amendment included the following changes to the compliance waiver requirements for the enhanced emissions I/M program:

- Beginning January 1, 2003, the 1971 to 1980 model year vehicle compliance waiver spending minimum increased from \$75 to \$200, and the 1981 to 1996 model year vehicle compliance waiver spending minimum increased from \$200 to \$450.
- Beginning January 1, 2003, repaired vehicles have had to show a reduction in all of the emissions that failed the initial tailpipe test without showing an increase in the emissions that passed the initial tailpipe test above the passing standards.
- Beginning January 1, 2003, repair technicians have had to document to their customers what their diagnosis determined was the cause of the excess emissions, what the customer

authorized to be repaired, and whether the repairs authorized were effective at reducing the vehicle's excess emissions.

### *Benefits of Revised Compliance Waiver Requirements*

With the implementation of these revised compliance waiver requirements on January 1, 2003, the air quality benefits and motorist convenience of the Gateway Clean Air Program have increased. A summary of the benefits of these tighter compliance waiver requirements are listed below:

- The number of vehicles on the road that are emitting excess pollution has been dramatically reduced. In 2002, before the enhanced I/M rule amendment became effective, 25 percent of the initially failed vehicles received a waiver. In 2003, after the enhanced I/M rule amendment became effective, five percent of the initially failed vehicles received a waiver. By implementing new compliance waiver requirements, the Gateway Clean Air Program has shown an 80 percent reduction in the enhanced I/M waiver rate and is now meeting the State Implementation Plan commitment of waiving no more than eight percent of the initially failed vehicles. Because 19 out of 20 failed vehicles are being repaired to pass the enhanced emission inspection, St. Louis area air quality is improving, one successful vehicle repair at a time.
- From 2000 to 2002, before the enhanced I/M rule amendment became effective, vehicles were permitted to receive a waiver without being required to show a reduction in emissions. In 2003, after the enhanced I/M rule amendment became effective, all of the vehicles that received a compliance waiver have shown a reduction in their excess pollution. By reducing the excess emissions in the vehicles that receive a waiver, the Gateway Clean Air Program is improving the air quality benefit of the enhanced I/M program.
- Clearer vehicle repair receipts are communicating to motorists the value of the service they are paying for, thereby reducing or eliminating disputes between repair shops and their customers, increasing customer satisfaction for repair facilities who are successful at repairing vehicles with excess emissions, and reducing the time it takes to issue a compliance waiver. By implementing vehicle emissions repair receipt requirements and increasing the accountability of repair facilities to their customers, the Gateway Clean Air Program is protecting motorists from ineffective vehicle emissions repairs that decrease the motorist convenience of the enhanced I/M program.
- More stringent compliance waiver requirements have caused more St. Louis area motorists to seek effective vehicle repair service from the St. Louis area vehicle repair industry. The increased motorist demand for effective repairs is allowing properly-trained repair technicians to apply the knowledge and skills they have acquired, is enhancing the knowledge base of the St. Louis vehicle repair industry, and is creating a demand for trained repair technicians who can repair vehicles with emissions problems.

### *New Continuing Education Requirement for Repair Technicians*

Beginning January 1, 2003, the enhanced emissions I/M rule required repair technicians to take a minimum of one four-hour continuing education course per calendar year in order to maintain their certification as Recognized Repair Technicians. In 2003, 618 repair technicians registered for courses approved by the Department of Natural Resources on on-board diagnostics, vehicle drivability repairs, and diagnosing emissions-related problems. Training courses were provided

by three St. Louis area training providers: Design Technology, Inc., St. Louis Community College at Forest Park, and American Automobile Association (AAA) Missouri. By requiring Recognized Repair Technicians to invest in continuing education each year, the Gateway Clean Air Program is enhancing the St. Louis area vehicle repair industry's ability to properly diagnose and fully repair vehicles that fail the emissions inspection. As more technicians become proficient at repairing vehicles with excess emissions, the motorist convenience and air quality benefits of the enhanced I/M program increases.

### *Clarified Vehicle Exhaust System Configuration Requirement*

The statewide vehicle safety inspection program, overseen by the Department of Public Safety's Missouri State Highway Patrol, has a rule that governs how a vehicle's exhaust system is to be inspected. This rule, 11 CSR 50-2.260, requires that all vehicles be equipped with a properly attached exhaust pipe, muffler and tailpipe. However, some vehicles were coming to the emissions inspection stations with shortened tailpipes that did not reach the rear or side of the vehicle, making tailpipe emissions testing of the vehicle difficult or impossible. The enhanced I/M rule now requires that vehicle exhaust systems match the manufacturer's original design in order for vehicles to be emissions inspected. This clarified exhaust system requirement has reduced the occurrence of vehicles with shortened or turned-down tailpipes being refused from the emissions inspection stations, thereby minimizing inspection station lane interruptions and increasing motorist convenience and vehicle safety (by discharging vehicle emissions away from the vehicle).

### *Biennial Inspections for Basic Inspection and Maintenance Area*

Senate Bill 54 was passed during the 2003 General Assembly session and signed into law. As a result, effective August 28, 2003, the Gateway Clean Air Program now emissions inspects vehicles in Franklin County once every two years, with even model year vehicles inspected in even calendar years and odd model year vehicles inspected in odd calendar years. This biennial inspection frequency matches the biennial inspection frequency of the statewide safety and the enhanced emissions I/M programs. Senate Bill 54 also raised the basic emissions inspection fee from \$10.50 annually to \$24 biennially, which is equal to the enhanced emissions inspection fee. This change in inspection frequency has increased the motorist convenience of the Gateway Clean Air Program in the basic vehicle emissions I/M area. However, the air quality benefit of the Gateway Clean Air Program in Franklin County has decreased as a result of this change, as vehicles in the basic emissions I/M area are now inspected half as often with a less stringent inspection than is offered in the enhanced emissions I/M area.

### *State Sales Tax Exemption for Vehicle Emissions Control Parts*

On March 30, 2003, a rule amendment to state rule 10 CSR 10-6.320 Sales Tax Exemption became effective that affects the vehicle parts and vehicle repair industry statewide. The following list of replacement vehicle parts are now exempt from state sales tax: Air injection parts, air pumps check valves, and smog pumps; catalytic converters, including universal converters, direct fit converters, and converter kits; exhaust gas recirculation (EGR) valves; evaporative canisters and canister purge valves; and positive crankcase ventilation (PCV) valves.

By eliminating the state sales tax on these emissions control components, the Department of Natural Resources has reduced the financial impact to motorists whose vehicles need to have

these components replaced in order to pass either the statewide safety or the St. Louis area emissions inspection. This reduced financial impact has increased the motorist convenience of the Gateway Clean Air Program.

### *Gateway Clean Air Program Public Information Improvements*

Each year, the Gateway Clean Air Program distributes public information through a variety of media including press releases, newspapers, radio, toll-free information phone numbers and a website. In 2003, the Gateway Clean Air Program improved two of its public information publications to provide motorists with additional information to increase the I/M program's motorist convenience.

The Gateway Clean Air Program Weekly Update is a brief report designed to summarize the weekly performance of the enhanced and basic emissions I/M programs. This report is available to the public at the following webpage: <http://www.gatewaycleanair.com/aboutesp/weekly.php>.

In September 2003, the Weekly Update report was redesigned in two ways. First, the monthly average wait times for the enhanced emissions I/M stations are now displayed in a tabular format. This new format allows easier monthly comparisons and more clearly illustrates the 30 percent reduction in motorist wait times due to the phase-in of OBD testing described above. Second, the weekly average wait times of each enhanced inspection station are now listed next to the average wait times of each enhanced inspection station for the previous 75 working days. This additional column of data allows the public to see whether the weekly average wait time of a particular station was substantially similar to or different from the average wait time for the previous 3 months. This additional information is giving motorists better information about which stations will inspect their vehicle most efficiently and demonstrating the Gateway Clean Air Program's commitment to keep motorist wait times to a minimum.

The Repair Facility Performance Report is a report that lists all of the vehicle repair facilities that employ Recognized Repair Technicians (enhanced I/M area) and Qualified Repair Technicians (basic I/M area) by geographical area so that motorists have a resource to identify the repair technicians in their vicinity that have the training necessary to perform effective emissions-related repairs. This report also provides motorists with information about what steps they should follow if their vehicle fails the emissions inspection. The report is published quarterly and given to all owners of vehicles that failed an emissions inspection. The report is also available to the public at all of the inspection stations and the following webpage: <http://www.gatewaycleanair.com/failveh/rfpr.htm>.

The December 2003 Repair Facility Performance Report was the first report that listed Repair Effectiveness Index scores for vehicle repair facilities that employ Recognized Repair Technicians and Qualified Repair Technicians. Only those facilities that completed 12 or more repairs in a six-month period received Repair Effectiveness Index scores. The scores listed are an indication of the repair technician's ability to diagnose and repair a vehicle's emissions-related failure successfully on the first try. By scoring the St. Louis repair industry, the Gateway Clean Air Program is providing motorists with information that they can use to select the best vehicle repair facility in their area and providing repair facilities with an incentive to fully repair their customer's vehicle's emissions-related problems.

### *RapidScreen Summary*

RapidScreen is a remote sensing-based clean screening method that identifies the cleanest running vehicles while they are driven on area roadways and exempts those vehicles from a station-based inspection. RapidScreen continues to be an effective motorist convenience element of the Gateway Clean Air Program. In 2003, RapidScreen reduced the number of vehicles at the emissions inspection stations by 21 percent. This reduction in station volume has increased the convenience of the Gateway Clean Air Program for all affected motorists without substantially reducing the air quality benefit of the emissions I/M program. For more detailed information about RapidScreen, please see Volume III of this report.

### *Cost to the Public of Vehicle Emissions Inspections*

The air quality improvements of the Gateway Clean Air Program are not without cost. However, because the Gateway Clean Air Program is a fee-based program, the revenue generated by the inspection fees is used to pay for the cost of the program, so no additional state revenue is spent on this program. The revenue collected is used by the contractor to pay for the loan obtained by the contractor to finance land purchase, station construction, and installation of the emissions test equipment. This revenue also pays for the ongoing cost of the operation of the inspection stations and RapidScreen vans, which includes the payroll of the program management and station staff and the utilities consumed by the stations, as well as the Gateway Clean Air Program public information campaign. All of these costs are paid by the department's contractor, ESP Missouri. In addition, a portion of the revenue generated by the program is used to pay for the department's oversight staff, facilities and auditing equipment. For more information about the department's oversight efforts, please see Volume II of this report.

The table below lists the 2003 Gateway Clean Air Program revenue collected by the type of emissions inspection. No revenue was collected from owners of 2002 and 2003 model year vehicles unless the vehicle was sold to a new owner in 2003, because these vehicles are statutorily exempted from the emissions inspection requirement.

<i>Type of Emissions Inspection</i>	<i>Inspection Fee</i>	<i>Number of Inspections</i>	<i>Revenue Collected</i>
<i>Enhanced Area Test</i>	\$ 24.00	574,571	\$ 13,789,704
<i>Enhanced Area Test &gt; 30 min. wait time</i>	\$ 14.00	5,941	\$ 83,174
<i>Enhanced Area Test &gt; 60 min. wait time</i>	\$ 4.00	39	\$ 156
<i>RapidScreen Test</i>	\$ 24.00	113,500	\$ 2,724,000
<i>Basic Area Test - January 1 - August 27</i>	\$ 10.50	38,652	\$ 405,846
<i>Basic Area Test - August 28 - December 31</i>	\$ 24.00	11,464	\$ 275,136
<b><i>2003 Totals</i></b>		<b>744,167</b>	<b>\$ 17,278,016</b>

### *Cost to the Public of Vehicle Emissions Repairs*

On the back of each Vehicle Test Report and Compliance Certificate is a Repair Data Sheet. The owner and the repairer of each vehicle that fails its initial inspection is required to fill out this Repair Data Sheet after repairs have been made and prior to the vehicle's reinspection. With the Repair Data Sheet, the Gateway Clean Air Program collects repair information to keep track of the amount of money spent on repairs and provide information to the public about which repair facilities are providing effective emissions repairs. The Repair Data Sheet does not collect data

about the money spent prior to a vehicle's emissions inspection; the money spent to bring a vehicle into compliance with the statewide safety inspection, which includes the visual inspection for the presence of emissions control components; or the money spent on regular vehicle maintenance, such as oil changes or manufacturer's mileage-based recommended parts inspections or replacements.

The Department of Natural Resources has estimated the amount of money spent to repair vehicles that failed the emissions inspection using the best information available. This estimate does not break the cost of repairs into parts and labor costs. Also, this estimate does not differentiate between spending at repair shops that employ Recognized Repair Technicians or Qualified Repair Technicians and spending at other repair shops or parts stores. The table below summarizes the estimated cost of the vehicle emissions repairs paid for in 2003.

	<i>Number of Vehicle Repairs</i>	<i>Average Repair Cost</i>	<i>Total Repair Cost</i>
<i>2003 Initial Inspection Failures</i>	53,467	\$ 348	\$ 18,606,516
<i>2003 Reinspection Failures</i>	35,270	\$ 113	\$ 3,985,510
<b><i>2003 Totals</i></b>	<b>88,737</b>		<b>\$ 22,592,026</b>

The information in the Number of Vehicle Repairs column is calculated from data found in Attachments 2, 3, 5 and 9 of Volume II of this report. The information in the Average Repair Cost column is calculated by averaging the cost of repairs from all repaired vehicles for all types of failures as compiled from the collected Repair Data Sheets. The Reinspection Failure Average Repair Cost is an incremental cost above the Initial Inspection Failure Average Repair Cost. In the case of vehicles that were reinspected more than once, each reinspection was assumed to have occurred after an additional payment of the Reinspection Failure Average Repair Cost.

### *Cost to the Public of Gateway Clean Air Program Reductions*

Combining the amount of inspection revenues collected, with the estimated cost of vehicle repairs on 53,467 vehicles, the total cost to the public of the emissions reductions achieved by the Gateway Clean Air Program in the fourth year of operation was \$39,870,042. Thus, the distributed cost of the emissions reductions achieved by the Gateway Clean Air Program in 2003 was:

$$\frac{\text{2003 Inspection Revenues} + \text{2003 Repair Costs}}{\text{Total Number of Inspected Vehicles in 2003}} = \frac{\$ 39,870,042}{744,167 \text{ vehicles}} = \$54/\text{vehicle inspected}$$

## **VII. Conclusion**

The fourth operating year of Gateway Clean Air Program has been marked by continuous improvements. The Air Pollution Control Program and our contractor, ESP Missouri, have made significant progress toward making the Gateway Clean Air Program as convenient to motorists as possible while continuing to improve the air quality benefits of the program. To accommodate the needs of motorists and their vehicles, the program will continue to be flexible and responsive.

The information in this report demonstrates that the Gateway Clean Air Program is complying with the EPA-approved State Implementation Plan. Based upon the information provided in the three volumes of this report, the Department of Natural Resources' Air Pollution Control Program recognizes this program as a key element of our air quality improvement strategy for the St. Louis region.

For copies of or more information regarding the Gateway Clean Air Program 2003 Annual Report, please write or call:

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